

Washington State Status Report for the Margined Sculpin



by Paul E. Mongillo and Molly Hallock



Washington Department of
FISH AND WILDLIFE
Fish Management Program
Freshwater Resource Division

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The Washington Department of Fish and Wildlife maintains a list of endangered, threatened and sensitive species (Washington Administrative Codes 232-12-014 and 232-12-011, Appendix A). In 1990, the Washington Fish and Wildlife Commission adopted listing procedures developed by a group of citizens, interest groups, and state and federal agencies (Washington Administrative Code 232-12-297, Appendix B). The procedures include how species listing will be initiated, criteria for listing and de-listing, public review and recovery and management of listed species.

The first step in the process is to develop a preliminary species status report. The report includes a review of information relevant to the species' status in Washington and addresses factors affecting its status including, but not limited to: historic, current, and future species population trends, natural history including ecological relationships, historic and current habitat trends, population demographics and their relationship to long term sustainability, and historic and current species management activities.

The procedures then provide for a 90-day public review opportunity for interested parties to submit new scientific data relevant to the status report, classification recommendation, and any State Environmental Policy Act findings. During the 90-day review period, the Department holds statewide public meetings to answer questions and take comments. At the close of the comment period, the Department completes the Final Status Report and Listing Recommendation for presentation to the Washington Fish and Wildlife Commission. The Final Report and Recommendation are then released 30 days prior to the Commission presentation for public review.

This is the Final Status Report for the Margined Sculpin. **Submit written comments on this report by 1 October 1998 to: Endangered Species Program Manger, Washington Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091.** The Department will present the results of this status review to the Fish and Wildlife Commission for action at its October 27, 1998 meeting.

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EXECUTIVE SUMMARY

The margined sculpin (*Cottus marginatus*) is physically distinguishable from the piute sculpin (*Cottus beldingi*), the only other similar sculpin species within its range, by medial chin pores and anal fin rays. The margined sculpin has one chin pore and 14 to 17 anal rays while the piute sculpin has two chin pores and 11 to 14 anal rays.

The former range of *C. marginatus* is unknown. Currently it is found in the Blue Mountains of Oregon and Washington. In Washington it is only found in parts of the Tucannon and Walla Walla drainages.

Margined sculpin spawn in the spring. They likely spawn under rocks in pools at temperatures that range from 11.5°C to 16°C. Young-of-the-year margined sculpin appear in electrofishing surveys during the fall.

Fish species diversity within the range of *C. marginatus* is low and it is not understood how they interact. It is known that different species of sculpins are preyed upon by fish, birds and mammals, while they prey upon fish eggs and other small fish including salmon.

The margined sculpin is primarily a pool dweller in streams. Its preference for pools does not appear to be strongly affected by seasons. It is normally found in water temperatures less than 20°C and adults tend to be found in deeper, faster water than juveniles.

The past and current population status of the margined sculpin is unknown. However, it is locally common. Even if present populations are healthy, its extremely restricted distribution poses concern for the future. Local disturbances may have profound effects on its persistence.

Most of the waters inhabited by *C. marginatus* have degraded habitat. Problems are caused by development, logging, agriculture, grazing and channelization. These activities result in sedimentation of substrate, elevated water temperatures, algal blooms and reduction in pool habitat. Agricultural and yard chemicals not used properly can directly eliminate fish as well as cause indirect problems such as algal blooms.

The future is somewhat hopeful. The chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*) and bull trout (*salvelinus confluentus*) that inhabit the Tucannon and Walla Walla drainages have been listed as threatened under the federal Endangered Species Act. This requires that many habitat protection measures be implemented that would also likely benefit margined sculpin.

The margined sculpin is confined to an extremely small range worldwide and in Washington. Much of the habitat it dwells in is degraded with an uncertain future. Because of its small range and degraded habitat conditions it is vulnerable and likely to become threatened or endangered in a significant portion of its range without cooperative management. The Department therefore recommends that the margined sculpin be listed as a sensitive species in Washington.

TAXONOMY

The margined sculpin (*Cottus marginatus*) was first described by Bean (1881) with specimens collected from the Walla Walla River, Washington. It is a member of the family Cottidae. The genus *Cottus* includes the freshwater sculpins. There are currently 10 freshwater sculpins recognized in Washington state.

DESCRIPTION

The sculpins are one of the most difficult freshwater fish to identify. They all have rather large heads that taper to a narrow caudal peduncle and are drab or mottled in coloration. They are also similar in size and seldom exceed 75 mm (3 in). To complicate matters, freshwater sculpin have some history of hybridization (Wydoski and Whitney 1979). Several species are very similar to one another and the margined sculpin is no exception. It is easily confused with the piute sculpin (*Cottus beldingi*) (Lonzarich 1996).

Until recently it was believed that the best way to distinguish the margined sculpin from other species, particularly the piute sculpin, was that the margined sculpin have 3 rather than 4 pelvic fin rays. This characteristic has proven to be variable. A recent study of these two species has shed new light on the subject (Lonzarich 1996). Medial chin pores and anal fin ray count are now believed to be the best method of distinguishing between these two species. Ninety-four percent of margined sculpin examined had only one chin pore while anal fin ray count ranged between 14 and 17. Piute sculpin had two chin pores 100 percent of the time and anal ray count ranged between 11 and 14. Lonzarich also found that margined sculpin had auxiliary prickles 83 percent of the time while piute sculpin never had prickles and, the margined sculpin had three pelvic fin rays 75 percent of the time while the piute sculpin had four, also 75 percent of the time.

Similar Species

The piute sculpin is a similar species. Their ranges overlap. However, the morphological characteristics that distinguish the two species are clearly defined above. Wydoski and Whitney (1979) believe that margined sculpin characteristics may intergrade with piute sculpin. This might be the result of hybridization. However, M. Lonzarich (per. comm.) has seen no evidence to support hybridization between the two species.

GEOGRAPHIC DISTRIBUTION

Nothing is known about the historic distribution of the margined sculpin. However, it is quite possible that margined sculpin ranged to the mouths of both the Tucannon and the Walla Walla Rivers (Fig. 1). Elevated temperatures in these areas may now exclude them (see Habitat section).

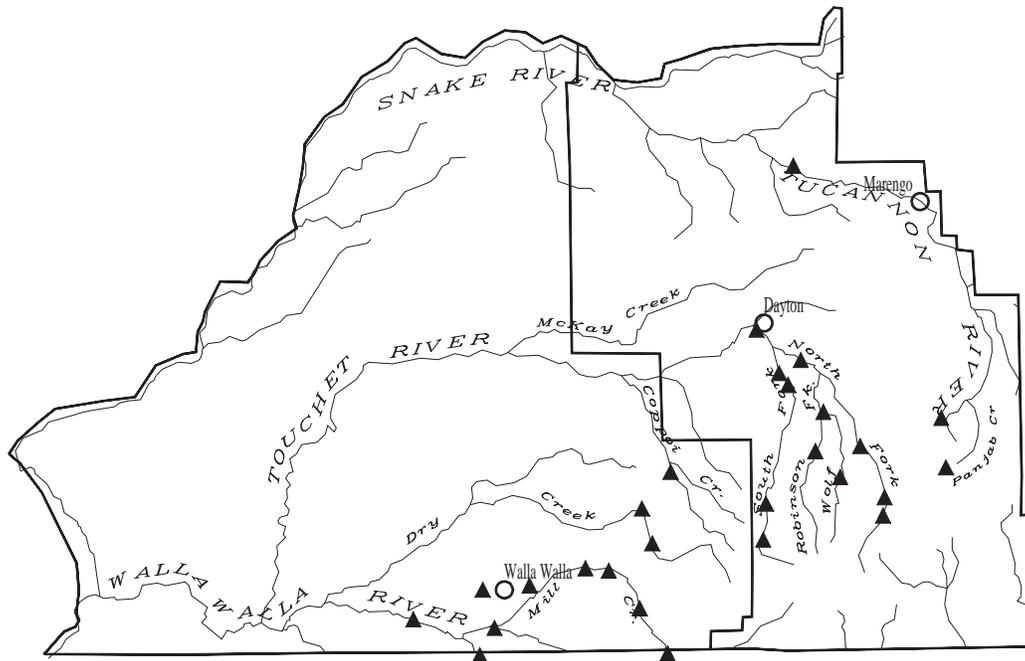


Figure 1. Distribution of margined sculpin in Washington State. Map depicts southeast corner of Washington. Triangles depict margined sculpin collection sites.

North America

The margined sculpin is found in the northern Blue Mountains of southeastern Washington and northeastern Oregon. It is only found in the Tucannon, Walla Walla and Umatilla river drainages (Wydoski and Whitney 1979; Lonzarich 1993).

Washington

The margined sculpin has the smallest range of any fish species in the state of Washington and is confined only to the Tucannon and Walla Walla drainages in southeastern Washington. It is found in two upper tributaries of the Tucannon River, Panjab Creek and Little Tucannon River.

It is also found in the mainstem Tucannon as far downstream as Marengo (about 50 km [31 mi] from the confluence with the Snake River). In the Walla Walla drainage it is found in four creeks in the upper Touchet drainage, SF Touchet, NF Touchet, Robinson Creek and Wolf Fork. The margined sculpin is also found in the lower Touchet drainage of Coppei Creek. It is found as far downstream as the city of Walla Walla in the Walla Walla River and in the middle Walla Walla tributaries of Mill Creek and Dry Creek. The margined sculpin is the only freshwater species of fish confined to what might be called the middle Columbia drainage (McPhail and Lindsey 1986).

Lonzarich (1993) looked for margined sculpin in adjacent drainages outside its established range. Two forks of Asotin Creek and two tributaries of the Grande Ronde River were sampled. Piute sculpin were common, but no margined sculpin were collected. Native non-game fish have been collected at over 1,000 different sites in Washington (Mongillo and Hallock 1995). Observations are from all parts of the state. Margined sculpin collection sites are confined to the area described above.

NATURAL HISTORY

Little is known about the natural history of most freshwater sculpins in Washington. The margined sculpin is no exception.

Reproduction

Gravid margined sculpin have been collected during May and June (M. Lonzarich per. comm.). One was collected in a glide, four in low gradient riffle and 12 in pool habitat. Water temperatures at collection sites ranged from 12.5° C to 16° C (54.5° F to 61° F). Margined sculpin spawned in aquariums at 11.5° C (52° F). Eggs were deposited under rocks and were strongly guarded. Eggs were sometimes fanned with the caudal fin. When margined sculpins were reproductively active and defending nests, they exhibited a black coloration (M. Lonzarich per. comm.). Young-of-the-year margined sculpin began to appear in electrofishing samples in the fall (Lonzarich 1993).

Mortality

Specific mortality factors for margined sculpin are unknown. However, other sculpins are known to be preyed upon by other species of fish, birds and mammals (Scott and Crossman 1973).

Behavioral Characteristics

With the exception of the reproductive behaviors described in a previous section of this report, little is known about behavioral characteristics of the margined sculpin.

Interspecific Relationships

Other species of sculpin are known to be preyed upon by fish, birds and mammals. Sculpin are also known to prey upon the eggs and young of salmon (Scott and Crossman 1973). Fish assemblages where margined sculpin are found are not diverse. Redside shiner (*Richardsonius balteatus*), Western brook lamprey (*Lampetra richardsoni*), speckled dace (*Rhinichthys osculus*), piute sculpin, brook trout (*Salvelinus fontinalis*), rainbow trout (*Oncorhynchus mykiss*), chinook salmon (*Oncorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*) are all known to inhabit waters that margined sculpin are found in (Lonzarich 1993).

Food

Food habits of margined sculpin are unknown. Other species of sculpin are known to feed on aquatic invertebrates, young fish and fish eggs (Scott and Crossman 1973; Wydoski and Whitney 1979).

HABITAT REQUIREMENTS

All information in this paragraph is from Lonzarich (1993). Margined sculpin are a stream dwelling species. They were almost always over-represented in pools and glides and under-represented in riffles. This trend remained the same whether piute sculpin were present or absent. Generally, margined sculpin were most often found over small gravel and silt substrate while they avoided large gravel, cobble and boulder substrate. However, this varied somewhat with season and presence or absence of piute sculpin. In cage experiments, margined sculpin usually selected the deepest part of the cage (34 cm). Adults tended to be found in deeper and faster water than juveniles. Generally, habitat selection did not vary greatly over seasons.

Lonzarich (1993) found margined sculpin most commonly at temperatures between 5°C (41°F) and 16°C (61°F). One study site had summer temperature as high as 25°C (77°F). Wydoski and Whitney (1979) normally found margined sculpin between 13°C (55°F) and 19°C (66°F) and occasionally to 24°C (75°F). Brown (1988) studied temperature preferences of three sculpin species found in a northern California stream. These were not margined sculpin, however, his results are useful in helping determine proper temperatures regimes for margined sculpin. The sculpin species studied preferred temperatures between 9.9°C (50°F) and 16.4°C (61.5°F). Mortalities began to occur with all three species at 27.5°C (81.5°F). If a conservative approach is taken, we can assume that margined sculpin likely prefer temperatures below 20°C (68°F), can withstand temperatures up to 25°C (77°F) for short periods and, will likely succumb at temperatures greater than 27°C (81°F).

Breeding Habitat

Gravid margined sculpin have been collected primarily in pools, but also occasionally in glides and low gradient riffle. In aquariums they deposit eggs on the undersides of rocks (M. Lonzarich per. comm.).

POPULATION STATUS

Past

No information is available on past population status of margined sculpin in Washington.

Present

Although the margined sculpin's range is very restricted, it is locally common (M. Lonzarich per. comm.).

Future

Even if present populations in Washington are healthy, the extremely restricted distribution poses concern for the future. Local disturbances may have profound effects on its persistence.

HABITAT STATUS

Past

This is a difficult subject to address. If one ventures back to the turn of the century some of the stream habitat in the range of the margined sculpin may actually have been worse than today from more intensive logging practices. Obviously if one goes back further in time habitat was pristine because agriculture, logging and development did not exist.

Present

The present habitat in Washington is in the Tucannon and Walla Walla drainages. Except where citations are present, information in the following two paragraphs is from G. Mendel (per. comm.).

The upper Tucannon Basin is primarily federal and state land. Major land use activities are recreation and logging (Washington Department of Fish and Wildlife 1997). Stream habitat in Panjab Creek and Little Tucannon River is still quite good. Recent logging and road impacts are minimal on Panjab Creek while Little Tucannon River is recovering from intense logging that took place in the early 1980's. Summer temperatures seldom exceed 23°C (73°F) in the upper Tucannon River. Pool habitat is only about 10 percent of these streams. This may be from past

logging practices. The Tucannon River habitat is still fairly good downstream to Marengo (about 50 km [31 mi] from the confluence with the Snake River). From this point the drainage is heavily influenced by agriculture and flood control measures. It is channelized, has high levels of sedimentation, increased algal levels and elevated temperatures reaching 26.5°C (80°F). There is limited pool habitat available.

The biggest tributary of the Walla Walla drainage containing margined sculpin is the Touchet River. From Dayton upstream the habitat of the Touchet is marginal. There are numerous homes along the shores, pastures, roads and logging. This results in a lack of pools, elevated water temperatures and sedimentation. The SF Touchet and Robinson Creek are severely degraded due to logging and grazing (Washington Department of Fish and Wildlife 1997). Conditions improve in both the Wolf Fork and the NF Touchet at higher elevations. From Dayton downstream to the Walla Walla River, habitat conditions deteriorate greatly from agricultural practices. Temperatures reach as high as 26.5°C (80°F), there is a lack of riparian vegetation, unstable banks are common, the river is channelized in some places and there is a lack of pools. Coppei Creek, Mill Creek, Dry Creek and the main stem Walla Walla River all have similar problems. Mill Creek's problems are exacerbated because portions of it run through concrete channels. Parts of the mainstem Walla Walla dry up during the irrigation season. Upper Mill Creek near the Oregon border has good habitat.

Future

The future for much of the Tucannon and Walla Walla drainages is somewhat hopeful. The chinook salmon, steelhead trout, and bull trout that use these drainages have been listed as threatened under the federal Endangered Species Act. This requires many habitat protection measures be implemented including a 100 m (325 ft) buffer along streams. This will help reduce temperatures and sedimentation. It should also help increase the number of pools. These actions may also benefit the margined sculpin.

CONSERVATION STATUS

Legal Status

The margined sculpin is listed as a Species of Concern by the U.S. Fish and Wildlife Service, Pacific Coast Ecoregion. It is listed as a State Candidate species in Washington and as a sensitive species by the Oregon Department of Fish and Wildlife.

Management Activities

Margined sculpin is included in Washington Department of Fish and Wildlife's Priority Habitat and Species Program (PHS). This means that *C. marginatus* has been identified for priority management and preservation. The designation represents a proactive approach to help mitigate the increasing pressures that growing human population will have on the state's fish and wildlife habitats. Priority habitats and species is designed to help guide growth in a manner that will

preserve the best and most important habitats and provide life's requirements to fish and wildlife. Whenever a project that may impact fish or wildlife (channelization, bridges, etc) is reviewed all PHS species in the project area are identified. Projects may be modified to protect the PHS species and their habitats. Also, when a project will use, divert, obstruct, or change the natural flow or bed of any water a hydraulic project approval (HPA) must be obtained from WDFW. Recommendations in the HPA for the protection of aquatic habitat and species must be closely followed.

FACTORS AFFECTING CONTINUED EXISTENCE

Adequacy of Existing Regulatory Mechanisms

The margined sculpin is not a desirable gamefish and it has no commercial value. There are therefore no harvest related issues. However, it is a PHS species. The needs of this species are taken into account when a proposed project may impact its habitat. Often, recommendations for this fish's protection are simply advisory. These measures offer limited protection. Recommendations in an HPA must be followed and can offer more reliable protection. Finally, forest practices may be altered to protect salmon and trout through the Washington Forest Practices Act. Margined sculpin may receive some indirect protection through this Act.

Present and Threatened Habitat Loss

The main threats to continued existence of the margined sculpin are: agricultural practices including grazing, channelization, and chemical use; logging and associated roads; shoreline development including removal of native vegetation, chemical use and septic problems; and the very limited extent of its range, both worldwide and in Washington. The man induced activities mentioned result in reduced pool habitats, unstable banks and the associated sedimentation of bottom substrate, and lack of riparian vegetation with its associated increases in water temperature. Use of yard and agricultural chemicals can reduce or eliminate fish numbers when not used properly. Algal mats on the substrate result from warm water and nutrient loading from fertilizers and grazing. Margined sculpin need pool habitat with water temperatures consistently below 20°C (68° F). Because of the sculpin's limited range, further declines in habitat condition could become critical.

CONCLUSIONS AND RECOMMENDATIONS

Knowledge about sculpins in Washington is limited. However, based on available information it is known that margined sculpin are confined to an extremely small range worldwide and in Washington. Also, much of the stream habitat it dwells in is degraded with an uncertain future. Because of its small range and degraded habitat conditions it is vulnerable and likely to become threatened or endangered in a significant portion of its range without cooperative management.

The Department therefore recommends that the margined sculpin be listed as a sensitive species in Washington.

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PERSONAL COMMUNICATIONS

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Appendix A. Washington Administrative Codes 232-12-011 and 232-12-014.

WAC 232-12-011 Wildlife classified as protected shall not be hunted or fished.

Protected wildlife are designated into three subcategories: Threatened, sensitive, and other.

(1) Threatened species are any wildlife species native to the state of Washington that are likely to become endangered within the foreseeable future throughout a significant portion of their range within the state without cooperative management or removal of threats. Protected wildlife designated as threatened include:

Common Name	Scientific Name
Western gray squirrel	<i>Sciurus griseus</i>
Steller (northern) sea lion	<i>Eumetopias jubatus</i>
North American lynx	<i>Lynx canadensis</i>
Aleutian Canada goose	<i>Branta canadensis leucopareia</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Ferruginous hawk	<i>Buteo regalis</i>
Marbled murrelet	<i>Brachyramphus marmoratus</i>
Green sea turtle	<i>Chelonia mydas</i>
Loggerhead sea turtle	<i>Caretta caretta</i>

(2) Sensitive species are any wildlife species native to the state of Washington that are vulnerable or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. Protected wildlife designated as sensitive include:

Common Name	Scientific Name
Gray whale	<i>Eschrichtius gibbosus</i>
Larch Mountain salamander	<i>Plethodon larselli</i>

(3) Other protected wildlife include:

Common Name	Scientific Name
Cony or pika	<i>Ochotona princeps</i>
Least chipmunk	<i>Tamias minimus</i>
Yellow-pine chipmunk	<i>Tamias amoenus</i>
Townsend's chipmunk	<i>Tamias townsendii</i>
Red-tailed chipmunk	<i>Tamias ruficaudus</i>
Hoary marmot	<i>Marmota caligata</i>
Olympic marmot	<i>Marmota olympus</i>
Cascade golden-mantled ground squirrel	<i>Spermophilus saturatus</i>
Golden-mantled ground squirrel	<i>Spermophilus lateralis</i>
Washington ground squirrel	<i>Spermophilus washingtoni</i>
Red squirrel	<i>Tamiasciurus hudsonicus</i>
Douglas squirrel	<i>Tamiasciurus douglasii</i>
Northern flying squirrel	<i>Glaucomys sabrinus</i>
Fisher	<i>Martes pennanti</i>
Wolverine	<i>Gulo gulo</i>
Painted turtle	<i>Chrysemys picta</i>
California mountain kingsnake	<i>Lampropeltis zonata</i> ;

All birds not classified as game birds, predatory birds or endangered species, or designated as threatened species or sensitive species; all bats, except when found in or immediately adjacent to a dwelling or other occupied building; mammals of the order *Cetacea*, including whales, porpoises, and mammals of the order *Pinnipedia* not otherwise classified as endangered species, or designated as threatened species or sensitive species. This section shall not apply to hair seals and sea lions which are threatening to damage or are damaging commercial fishing gear being utilized in a lawful manner or when said mammals are damaging or threatening to damage commercial fish being lawfully taken with commercial gear.

[Statutory Authority: RCW 77.12.020. 97-18-019 (Order 97-167), § 232-12-011, filed 8/25/97, effective 9/25/97. Statutory Authority: RCW 77.12.040, 77.12.020, 77.12.030 and 77.32.220. 97-12-048, § 232-12-011, filed 6/2/97, effective 7/3/97. Statutory Authority: RCW 77.12.020. 93-21-027 (Order 615), § 232-12-011, filed 10/14/93, effective 11/14/93; 90-11-065 (Order 441), § 232-12-011, filed 5/15/90, effective 6/15/90. Statutory Authority: RCW 77.12.040. 89-11-061 (Order 392), § 232-12-011, filed 5/18/89; 82-19-026 (Order 192), § 232-12-011, filed 9/9/82; 81-22-002 (Order 174), § 232-12-011, filed 10/22/81; 81-12-029 (Order 165), § 232-12-011, filed 6/1/81.]

WAC 232-12-014 Wildlife classified as endangered species.

Endangered species include:

Common Name	Scientific Name
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Gray wolf	<i>Canis lupus</i>
Grizzly bear	<i>Ursus arctos</i>
Sea otter	<i>Enhydra lutris</i>
Sei whale	<i>Balaenoptera borealis</i>
Fin whale	<i>Balaenoptera physalus</i>
Blue whale	<i>Balaenoptera musculus</i>
Humpback whale	<i>Megaptera novaeangliae</i>
Black right whale	<i>Balaena glacialis</i>
Sperm whale	<i>Physeter macrocephalus</i>
Columbian white-tailed deer	<i>Odocoileus virginianus leucurus</i>
Woodland caribou	<i>Rangifer tarandus caribou</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
Brown pelican	<i>Pelecanus occidentalis</i>
Peregrine falcon	<i>Falco peregrinus</i>
Sandhill crane	<i>Grus canadensis</i>
Snowy plover	<i>charadrius alexandrinus</i>
Upland sandpiper	<i>Bartramia longicauda</i>
Spotted owl	<i>Strix occidentalis</i>
Western pond turtle	<i>Clemmys marmorata</i>
Leatherback sea turtle	<i>Dermochelys coriacea</i>
Oregon silverspot butterfly	<i>Speyeria zerene hippolyta</i>
Oregon spotted frog	<i>Rana pretiosa</i>

[Statutory Authority: RCW 77.12.020. 97-18-019 (Order 97-167), § 232-12-014, filed 8/25/97, effective 9/25/97; 93-21-026 (Order 616), § 232-12-014, filed 10/14/93, effective 11/14/93. Statutory Authority: RCW 77.12.020(6). 88-05-032 (Order 305), § 232-12-014, filed 2/12/88. Statutory Authority: RCW 77.12.040. 82-19-026 (Order 192), § 232-12-014, filed 9/9/82; 81-22-002 (Order 174), § 232-12-014, filed 10/22/81; 81-12-029 (Order 165), § 232-12-014, filed 6/1/81.]

Appendix B. Washington Administrative Code 232-12-297.

WAC 232-12-297

Endangered, threatened, and sensitive wildlife species classification.

PURPOSE

- 1.1 The purpose of this rule is to identify and classify native wildlife species that have need of protection and/or management to ensure their survival as free-ranging populations in Washington and to define the process by which listing, management, recovery, and delisting of a species can be achieved. These rules are established to ensure that consistent procedures and criteria are followed when classifying wildlife as endangered, or the protected wildlife subcategories threatened or sensitive.

DEFINITIONS

For purposes of this rule, the following definitions apply:

- 2.1 "Classify" and all derivatives means to list or delist wildlife species to or from endangered, or to or from the protected wildlife subcategories threatened or sensitive.
- 2.2 "List" and all derivatives means to change the classification status of a wildlife species to endangered, threatened, or sensitive.
- 2.3 "Delist" and its derivatives means to change the classification of endangered, threatened, or sensitive species to a classification other than endangered, threatened, or sensitive.
- 2.4 "Endangered" means any wildlife species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state.
- 2.5 "Threatened" means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats.
- 2.6 "Sensitive" means any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the state without cooperative management or removal of threats.
- 2.7 "Species" means any group of animals classified as a species or subspecies as commonly accepted by the scientific community.
- 2.8 "Native" means any wildlife species naturally occurring in Washington for purposes of breeding, resting, or foraging, excluding introduced species not found historically in this state.
- 2.9 "Significant portion of its range" means that portion of a species' range likely to be essential to the long term survival of the population in Washington.

LISTING CRITERIA

- 3.1 The commission shall list a wildlife species as endangered, threatened, or sensitive solely on the basis of the biological status of the species being considered, based on the preponderance of scientific data available, except as noted in section 3.4.

- 3.2 If a species is listed as endangered or threatened under the federal Endangered Species Act, the agency will recommend to the commission that it be listed as endangered or threatened as specified in section 9.1. If listed, the agency will proceed with development of a recovery plan pursuant to section 11.1.
- 3.3 Species may be listed as endangered, threatened, or sensitive only when populations are in danger of failing, declining, or are vulnerable, due to factors including but not restricted to limited numbers, disease, predation, exploitation, or habitat loss or change, pursuant to section 7.1.
- 3.4 Where a species of the class Insecta, based on substantial evidence, is determined to present an unreasonable risk to public health, the commission may make the determination that the species need not be listed as endangered, threatened, or sensitive.

DELISTING CRITERIA

- 4.1 The commission shall delist a wildlife species from endangered, threatened, or sensitive solely on the basis of the biological status of the species being considered, based on the preponderance of scientific data available.
- 4.2 A species may be delisted from endangered, threatened, or sensitive only when populations are no longer in danger of failing, declining, are no longer vulnerable, pursuant to section 3.3, or meet recovery plan goals, and when it no longer meets the definitions in sections 2.4, 2.5, or 2.6.

INITIATION OF LISTING PROCESS

- 5.1 Any one of the following events may initiate the listing process.
 - 5.1.1 The agency determines that a species population may be in danger of failing, declining, or vulnerable, pursuant to section 3.3.
 - 5.1.2 A petition is received at the agency from an interested person. The petition should be addressed to the director. It should set forth specific evidence and scientific data which shows that the species may be failing, declining, or vulnerable, pursuant to section 3.3. Within 60 days, the agency shall either deny the petition, stating the reasons, or initiate the classification process.
 - 5.1.3 An emergency, as defined by the Administrative Procedure Act, chapter 34.05 RCW. The listing of any species previously classified under emergency rule shall be governed by the provisions of this section.
 - 5.1.4 The commission requests the agency review a species of concern.
- 5.2 Upon initiation of the listing process the agency shall publish a public notice in the Washington Register, and notify those parties who have expressed their interest to the department, announcing the initiation of the classification process and

calling for scientific information relevant to the species status report under consideration pursuant to section 7.1.

INITIATION OF DELISTING PROCESS

- 6.1 Any one of the following events may initiate the delisting process:
 - 6.1.1 The agency determines that a species population may no longer be in danger of failing, declining, or vulnerable, pursuant to section 3.3.
 - 6.1.2 The agency receives a petition from an interested person. The petition should be addressed to the director. It should set forth specific evidence and scientific data which shows that the species may no longer be failing, declining, or vulnerable, pursuant to section 3.3. Within 60 days, the agency shall either deny the petition, stating the reasons, or initiate the delisting process.
 - 6.1.3 The commission requests the agency review a species of concern.
- 6.2 Upon initiation of the delisting process the agency shall publish a public notice in the Washington Register, and notify those parties who have expressed their interest to the department, announcing the initiation of the delisting process and calling for scientific information relevant to the species status report under consideration pursuant to section 7.1.

SPECIES STATUS REVIEW AND AGENCY RECOMMENDATIONS

- 7.1 Except in an emergency under 5.1.3 above, prior to making a classification recommendation to the commission, the agency shall prepare a preliminary species status report. The report will include a review of information relevant to the species' status in Washington and address factors affecting its status, including those given under section 3.3. The status report shall be reviewed by the public and scientific community. The status report will include, but not be limited to an analysis of:
 - 7.1.1 Historic, current, and future species population trends.
 - 7.1.2 Natural history, including ecological relationships (e.g., food habits, home range, habitat selection patterns).
 - 7.1.3 Historic and current habitat trends.
 - 7.1.4 Population demographics (e.g., survival and mortality rates, reproductive success) and their relationship to long term sustainability.
 - 7.1.5 Historic and current species management activities.
- 7.2 Except in an emergency under 5.1.3 above, the agency shall prepare recommendations for species classification, based upon scientific data contained in the status report. Documents shall be prepared to determine the environmental consequences of adopting the recommendations pursuant to requirements of the State Environmental Policy Act (SEPA).
- 7.3 For the purpose of delisting, the status report will include a review of recovery plan goals.

PUBLIC REVIEW

- 8.1 Except in an emergency under 5.1.3 above, prior to making a recommendation to the commission, the agency shall provide an opportunity for interested parties to submit new scientific data relevant to the status report, classification recommendation, and any SEPA findings.
 - 8.1.1 The agency shall allow at least 90 days for public comment.
 - 8.1.2 The agency will hold at least one public meeting in each of its administrative regions during the public review period.

FINAL RECOMMENDATIONS AND COMMISSION ACTION

- 9.1 After the close of the public comment period, the agency shall complete a final status report and classification recommendation. SEPA documents will be prepared, as necessary, for the final agency recommendation for classification. The classification recommendation will be presented to the commission for action. The final species status report, agency classification recommendation, and SEPA documents will be made available to the public at least 30 days prior to the commission meeting.
- 9.2 Notice of the proposed commission action will be published at least 30 days prior to the commission meeting.

PERIODIC SPECIES STATUS REVIEW

- 10.1 The agency shall conduct a review of each endangered, threatened, or sensitive wildlife species at least every five years after the date of its listing. This review shall include an update of the species status report to determine whether the status of the species warrants its current listing status or deserves reclassification.
 - 10.1.1 The agency shall notify any parties who have expressed their interest to the department of the periodic status review. This notice shall occur at least one year prior to end of the five year period required by section 10.1.
- 10.2 The status of all delisted species shall be reviewed at least once, five years following the date of delisting.
- 10.3 The department shall evaluate the necessity of changing the classification of the species being reviewed. The agency shall report its findings to the commission at a commission meeting. The agency shall notify the public of its findings at least 30 days prior to presenting the findings to the commission.
 - 10.3.1 If the agency determines that new information suggests that classification of a species should be changed from its present state, the agency shall initiate classification procedures provided for in these rules starting with section 5.1.
 - 10.3.2 If the agency determines that conditions have not changed significantly and that the classification of the species should remain unchanged, the agency shall recommend to the commission that the species being reviewed shall retain its present classification status.

10.4 Nothing in these rules shall be construed to automatically delist a species without formal commission action.

RECOVERY AND MANAGEMENT OF LISTED SPECIES

11.1 The agency shall write a recovery plan for species listed as endangered or threatened. The agency will write a management plan for species listed as sensitive. Recovery and management plans shall address the listing criteria described in sections 3.1 and 3.3, and shall include, but are not limited to:

11.1.1 Target population objectives.

11.1.2 Criteria for reclassification.

11.1.3 An implementation plan for reaching population objectives which will promote cooperative management and be sensitive to landowner needs and property rights. The plan will specify resources needed from and impacts to the department, other agencies (including federal, state, and local), tribes, landowners, and other interest groups. The plan shall consider various approaches to meeting recovery objectives including, but not limited to regulation, mitigation, acquisition, incentive, and compensation mechanisms.

11.1.4 Public education needs.

11.1.5 A species monitoring plan, which requires periodic review to allow the incorporation of new information into the status report.

11.2 Preparation of recovery and management plans will be initiated by the agency within one year after the date of listing.

11.2.1 Recovery and management plans for species listed prior to 1990 or during the five years following the adoption of these rules shall be completed within five years after the date of listing or adoption of these rules, whichever comes later. Development of recovery plans for endangered species will receive higher priority than threatened or sensitive species.

11.2.2 Recovery and management plans for species listed after five years following the adoption of these rules shall be completed within three years after the date of listing.

11.2.3 The agency will publish a notice in the Washington Register and notify any parties who have expressed interest to the department interested parties of the initiation of recovery plan development.

11.2.4 If the deadlines defined in sections 11.2.1 and 11.2.2 are not met the department shall notify the public and report the reasons for missing the deadline and the strategy for completing the plan at a commission meeting. The intent of this section is to recognize current department personnel resources are limiting and that development of recovery plans for some of the species may require significant involvement by interests outside of the department, and therefore take longer to complete.

11.3 The agency shall provide an opportunity for interested public to comment on the recovery plan and any SEPA documents.

CLASSIFICATION PROCEDURES REVIEW

12.1 The agency and an ad hoc public group with members representing a broad spectrum of interests, shall meet as needed to accomplish the following:

12.1.1 Monitor the progress of the development of recovery and management plans and status reviews, highlight problems, and make recommendations to the department and other interested parties to improve the effectiveness of these processes.

12.1.2 Review these classification procedures six years after the adoption of these rules and report its findings to the commission.

AUTHORITY

13.1 The commission has the authority to classify wildlife as endangered under RCW 77.12.020. Species classified as endangered are listed under WAC 232-12-014, as amended.

13.2 Threatened and sensitive species shall be classified as subcategories of protected wildlife. The commission has the authority to classify wildlife as protected under RCW 77.12.020. Species classified as protected are listed under WAC 232-12-011, as amended. [Statutory Authority: RCW 77.12.020. 90-11-066 (Order 442), § 232-12-297, filed 5/15/90, effective 6/15/90.]